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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,754	09/18/2003	Yufeng Li	2002P15652US01	4113

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Intellectual Property Department
170 Wood Avenue South
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EXAMINER	
TERMANINI, SAMIR	

ART UNIT	PAPER NUMBER
2178	

MAIL DATE	DELIVERY MODE
11/14/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/664,754	LI, YUFENG	
	Examiner	Art Unit	
	Samir Termanini	2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/26/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

BACKGROUND

1. This action is responsive to the following communications: Amendment filed on 8/15/2008.

2. Claims 1–25 are pending in this case. Claims 1, 19, and 20 are in independent form. Claims 4, 6, 7, 9, 11, and 17 have been previously amended

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 6/26/2008 was filed after the mailing date of the Non-Final on 5/15/2008. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

RESPONSE TO AMENDMENT

4. Arguments concerning the Examiner's rejections of: (1) Claims 1–12 and 19–20 under 35 U.S.C. §102(b) 35 U.S.C. 102(b) as being anticipated by *Engdahl* (U.S. Pat. No. 6,282,455); and (2) Claims 13–18 under 35 U.S.C. 103(a) as being unpatentable over *Engdahl* (U.S. Pat. No. 6,282,455) in view of *Chapman et al.* (U.S. Pre–Grant Publication 2004/0021679) and *Arora et al.* (US Pat. No. 5,911,145) have been fully considered but are not persuasive, discussed in detail hereunder.

CLAIM REJECTIONS-35 U.S.C. § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1–12 and 19–20** are rejected under 35 U.S.C. 102(b) as being anticipated by *Engdahl* (U.S. Pat. No. 6,282,455).

I. Citation of Prior Art

A reference to specific paragraphs, columns, pages, or figures in a cited prior art reference is not limited to preferred embodiments or any specific examples[1]. It is well settled that a prior art reference, in its entirety, must be considered for all that it expressly teaches and fairly suggests to one having ordinary skill in the art[2]. Stated differently, a prior art disclosure reading on a limitation of Applicant's claim cannot be ignored on the ground that other embodiments disclosed were instead cited. Therefore, the Examiner's citation to a specific portion of a single prior art reference is not

[1] In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968).
[2] *Upsher-Smith Labs. v. Pamlab, LLC*, 412 F.3d 1319, 1323, 75 USPQ2d 1213, 1215 (Fed. Cir. 2005); *In re Fritch*, 972 F.2d 1260, 1264, 23 USPQ2d 1780, 1782 (Fed. Cir. 1992); *Merck & Co. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807, 10 USPQ2d 1843, 1846 (Fed. Cir. 1989); *In re Fracalossi*, 681 F.2d 792, 794 n.1, 215 USPQ 569, 570 n.1 (CCPA 1982); *In re Lamberti*, 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976); *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969).

intended to exclusively dictate, but rather, to demonstrate an exemplary disclosure commensurate with the specific limitations being addressed.

II. General Discussion of the Applied Prior Art.

Engdahl discloses a human machine interface for designing, monitoring and troubleshooting complex industrial control systems uses the paradigm of the factory floor to organize machines, control program portions and data as virtual spatially linked objects that may be moved in three dimensions to be joined with other spatially linked objects. *Engdahl* further discloses that the user may move within the virtual factory floor among the spatially linked objects followed by spatially indifferent objects which provide tools for monitoring and interacting with the spatially linked objects. *Engdahl* further discloses Proximity of visual objects determines data sharing between objects. *Engdahl* further discloses a scene graph for producing three-dimensional representations of the factory environment and the machines, and displaying the same on the display (col. 5, lines 5-18).

III. Prior Art Anticipation of Claimed Limitations.

As to independent **claim 1**, *Engdahl* describe(s): A method for representing HMI user screens comprising the activities of: via an information device ("...a computer...," col. 2, lines 31-33): obtaining an organization and a hierarchy of a collection ("...Collecting objects...," col. 2, line 67 – col. 3, line 1) comprising a plurality of human machine interface (HMI) screen nodes ("...a graphic representation of a scene graph employed by the present invention to track the hierarchy and association of different

spatially linked objects the latter represented by nodes...," col. 3, lines 43-46), each of the plurality of HMI screen nodes a visual representation of a corresponding visual display of a human machine interface ("...viewing the visual display...," col. 2, lines 40-44) adapted to interpret communications from a human operator of an automated machine controller ("...for designing, programming, control and maintenance of factory processes...," col. 4, line 67 – col. 5, line 1); automatically determining an arrangement of the collection ("established automatically" col. 8, line 46); responsive to a detected collision between a parent node of said hierarchy of said collection and a leaf node of the parent node ("...is on top of another object...," col. 8, lines 25-26), automatically adjusting a position of said parent node ("...parent node connects to the child node's properties...," col. 8, lines 29-30); and rendering the collection according to the arrangement ("...rendering the scene...," col. 3, line 49).

As to dependent **claim 2**, which depends from claim 1, *Engdahl* further disclose(s): the method of claim 1 further comprising calculating a position of the leaf node ("...each nodes spatial coordinates are defined relative to its parent node and hence children nodes "move" with the parent node when the coordinates of the parent node are changed. Generally the coordinates include x, y and z Cartesian coordinates as well as rotative coordinates of roll, yaw, and pitch. This allows visual objects, represented by children nodes, to be placed "within" other visual objects represented by parent nodes...," col. 5, lines 32-33).

As to dependent **claim 3**, which depends from claim 1, *Engdahl* further disclose(s): the method of claim 1 further comprising calculating a position of a visible

leaf ("...coordinates includ[ing] x, y and z Cartesian coordinates [of] visual objects, represented by children nodes," col. 5, lines 37-39) (emphasis added).

As to dependent **claim 4**, which depends from claim 1, *Engdahl* further disclose(s): the method of claim 1 further comprising calculating the position of the parent ("...coordinates [of] parent node...," col. 5, lines 32-33).

As to dependent **claim 5**, which depends from claim 1, *Engdahl* further disclose(s): the method of claim 1 further comprising detecting the collision ("...if the culmination of the drag-drop operation is that the selected object 64 is on top of another object 64, then the objects 64 of the child node takes its arguments from the parent node's properties and, if necessary, the parent node connects to the child node's properties....," col. 8, lines 25-30) (emphasis added).

As to dependent **claim 6**, which depends from claim 1, *Engdahl* further disclose(s): the method of claim 1 further comprising updating the position of the parent ("...the parent node connects to the child node's properties...," col. 8, lines 29-30).

As to dependent **claim 7**, which depends from claim 1, *Engdahl* further disclose(s): the method of claim 1 further comprising updating the position of the parent ("...the parent node connects to the child node's properties...automatically...," col. 8, lines 25-30 and 46) upon detecting the collision ("if... the drag-drop operation is that the selected object 64 is on top of another object...the parent node connects to the child node's properties...automatically...," col. 8, lines 25-30 and 46).

As to dependent **claim 8**, which depends from claim 1, *Engdahl* further disclose(s): the method of claim 1 further comprising recursively calculating a position of each of the plurality of HMI screen nodes ("...respond to the operation of the computer node, again through a linking of properties...," col. 6 lines 24-27) (emphasis added).

As to dependent **claim 9**, which depends from claim 1, *Engdahl* further disclose(s): the method of claim 1 further comprising in response to detected collision, recursively calculating a position of each of the plurality of HMI screen nodes ("...respond to the operation of the computer node, again through a linking of properties...," col. 6 lines 24-27) (emphasis added) and updating the position of the parent until no collision is detected ("if... the drag-drop operation is that the selected object 64 is on top of another object...the parent node connects to the child node's properties...automatically...," col. 8, lines 25-30 and 46).

As to dependent **claims 10 and 11**, which depend from claim 1, *Engdahl* further disclose(s): the method of claim 1 further comprising changing a visibility of a node and children of the node ("visibility of a particular object 64 may be changed through the node editor 78 receiving cursor commands from the devices 24 " col. 7, lines 39-47; see also, "...each node includes the property of visibility and thus its associated object may become invisible or transparent allowing this nesting of objects in other objects to be properly displayed on the visual display 22 and the display to be simplified when all components to nodes need not be displayed...," col. 6, lines 40-45) (emphasis added).

As to dependent **claim 12**, which depends from claim 1, *Engdahl* further disclose(s): the method of claim 1 wherein the arrangement is a tree arrangement ("...in which scene elements are arranged as nodes on a tree structure...," col. 5, lines 25-27) (emphasis added).

As to independent **claim 19**, this claim differs from claim 1 only in that it is directed to a product defined by the process of claim 1. Accordingly, this claim is rejected for the same reasons set forth in the treatment of claim 1, above.

As to independent **claim 20**, this claim differs from claim 1 only in that it is directed to an apparatus for carrying out the process of claim 1. *Engdahl* further disclose(s):

> [A]n industrial control system [a] central control unit [i]ncluding a central processing unit [a] communications adapter [a] terminal 20 providing a visual display 22 and one or more user input devices [i]nput device 24 may be a conventional keyboard and mouse, or a spaceball...a common network [and] one or more remote units (col. 3, line 57 to col. 4, line 26).

Accordingly, this claim is rejected for the same reasons set forth in the treatment of claim 1, above.

CLAIM REJECTIONS-35 U.S.C. § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

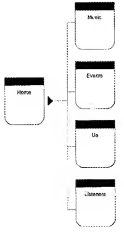
8. **Claims 13–18, and 21-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Engdahl* (U.S. Pat. No. 6,282,455) in view of *Chapman et al.* (U.S. Pre–Grant Publication 2004/0021679) and *Arora et al.* (US Pat. No. 5,911,145).

As to dependent **claims 13 and 14**, which depend from claim 1, *Engdahl* taught the method for representing HMI user screens in an information device ("...a computer...," col. 2, lines 31-33; see also discussion of claim 20, above), obtaining the organization and a hierarchy of a collection ("...Collecting objects...," col. 2, line 67 – col. 3, line 1), the plurality of human machine interface (HMI) screen nodes ("...a graphic representation of a scene graph employed by the present invention to track the hierarchy and association of different spatially linked objects the latter represented by nodes...," col. 3, lines 43-46), each of the plurality of HMI screen nodes a visual representation of the corresponding visual display of a human machine interface ("...viewing the visual display...," col. 2, lines 40-44) adapted to interpret communications from the human operator of the automated machine controller ("...for designing, programming, control and maintenance of factory processes...," col. 4, line 67 – col. 5, line 1); automatically determining an arrangement of the collection (e.g. "established automatically" col. 8, line 46), being responsive to a detected collision between the parent node of said hierarchy of said collection and the leaf node of the parent node ("...is on top of another object...," col. 8, lines 25-26), automatically

adjusting a position of said parent node ("...parent node connects to the child node's properties...," col. 8, lines 29-30); and rendering the collection according to the arrangement ("...rendering the scene...," col. 3, line 49).

Engdahl arguably fails to clearly show that the arrangement is either: (1) a vertical tree arrangement; or (2) a horizontal tree arrangement.

Arora et al. is cited for teaching an arrangement of a vertical tree, as illustrated in figure 21, below.



United States Patent
Arora et al
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FIG 21

Arora et al. further teaches a horizontal tree arrangement, as illustrated in figure 20, below.

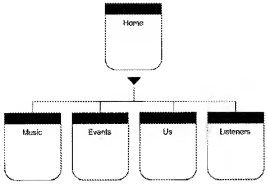


FIG. 20

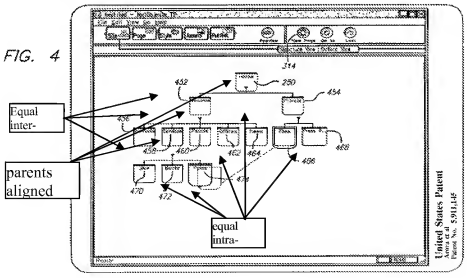
Arora et al. does not teach the vertical and horizontal tree arrangements for configuring an HMI. Instead, the vertical and horizontal tree arrangements are for HTML pages of a web site.

Chapman et al. teaches "a human machine interface (HMI)" (para. [0001]) including "a display page including a plurality of display page elements" (para. [0025]) where "[p]referably, the display page is HTML based" (para. [0040]).

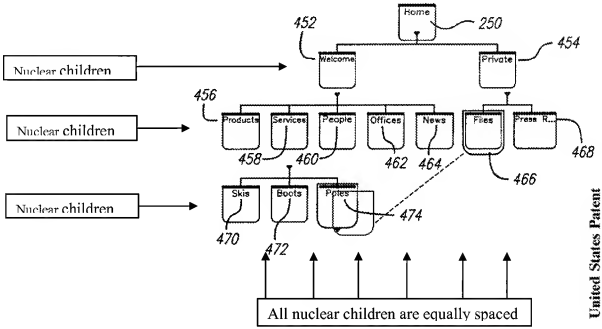
It would have been obvious to one of ordinary skill in the art at the time the invention was made, to have combined the vertical and horizontal tree arrangements of *Arora et al.* with the HMI editor of *Engdahl* because of the teachings in *Chapman et al.* and knowledge of persons of ordinary skill in the art. More specifically, *Chapman et al.* suggests the use of HTML display pages for "[b]etter integration between the operator

HMI and other business systems. Business systems are undoubtedly moving towards greater integration with the web," para. [0226]). The level of ordinary skill coupled with the level of knowledge in the art at the time of the invention (evidenced in these three references) was such that their existed a reasonable expectation of success in the above combination (e.g. "In addition, the latest version of MSHTML includes many new features that are pivotal in making it suitable as a basis for an industrial HMI architecture...," para. [0240]). Additionally, *Engdahl*, *Chapman et al.*, and *Arora et al.* are in analogous art as they all are directed to the same field of endeavor of configuring user interfaces using markup languages.

As to dependent **claims 15-17, 21, and 23-25**, *Arora et al.* further disclosed the method of claim 1, wherein the arrangement is rendered with equal inter-generational node spacing, equal intra-generational node spacing, and each parent aligned centrally to all children of that parent-as illustrated in figure 4.



As to dependent **claims 18 and 22**, *Arora et al.* further disclosed the method of claim 1, wherein the arrangement is rendered with all nuclear children separated equally, as illustrated in figure 4.



RESPONSE TO ARGUMENTS

9. The declaration filed under 37 CFR 1.132 (filed 2/5/2008) is insufficient to overcome the rejection of (1) Claims 1–12 and 19–20 under 35 U.S.C. §102(b) 35 U.S.C. 102(b) as being anticipated by Engdahl (U.S. Pat. No. 6,282,455); and (2) Claims 13–18 under 35 U.S.C. 103(a) as being unpatentable over Engdahl (U.S. Pat. No. 6,282,455) in view of Chapman et al. (U.S. Pre–Grant Publication 2004/0021679) and Arora et al. (US Pat. No. 5,911,145) as set forth in the last Office action.

The substance of the declaration offers several conclusory determinations based on what one of ordinary skill in the art would have found, but fails to set forth any facts to support the conclusory determination(s) about the level of ordinary skill was.

More specifically, to provide evidence of what the level of ordinary skill was applicant should follow the guidance in *Environmental Designs, Ltd. v. Union Oil Co.*, "Factors that may be considered in determining level of ordinary skill in the art include (1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field." *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696, 218 USPQ 865, 868 (Fed. Cir. 1983), cert. denied, 464 U.S. 1043 (1984).

The evidence contained in the declaration was found by the examiner to support applicants arguments set forth in the 2/5/2008 Remarks. The evidence contained in the declaration was also given evidentiary weight. However, the evidence provided is conclusory. For example, assertions as to what the level of ordinary skill in the art was are made without evidence any of the following to support them: (1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field." *Id*

Applicant repeatedly states (on page 2) that in the 1.132 affidavit (2/5/2008):

> Paragraphs 15-29 of Mr. Muenzet's Declaration provide evidence that one having ordinary skill in the art would not have found…

> Paragraphs 15-29 of Mr. Muenzet's Declaration provide evidence that one having ordinary skill in the art would not have found...
>
> Paragraphs 15-29 of Mr. Muenzet's Declaration provide evidence that one having ordinary skill in the art would not have found...

However, the affidavit is devoid of said evidence. Therefore, in view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence fails to outweigh the evidence used to support the original rejections.

10. Applicant's arguments with respect to rejection of claims 1–25 have been considered but are not persuasive.

Applicant argues that the "properties" referenced by the applied portion of Engdahl appear to be related to providing a "reading of physical quantity I/O data in quantitative form", "communications data", or "data associated with the nodes".

In response to Applicant's argument, the following teaching was noted by the Examiner:

> Generally each node includes the property of visibility and thus its associated object may become invisible or transparent allowing this nesting of objects in other objects to be properly displayed on the visual display 22 and the display to be simplified when all components to nodes need not be displayed.

(col. 6, lines 40-45).

11. Applicant's arguments with respect to rejections under 35 U.S.C. § 103(a), see Applicants Amendment (dated 2/5/2008), have been considered but are not persuasive.

Applicant incorrectly asserts, under the heading "3. Next Office Action":

> If an Office Action fails to set forth sufficient facts to provide a prima facie basis for the rejections, any future rejection based on the applied reference will necessarily be factually based on an entirely different portion of that reference, and thus will be legally defined as a "new grounds of rejection." Consequently, any Office Action containing such rejection can not properly be made final. See, In re Wiechert, 152 USPQ 247, 251-52 (CCPA 1967) (defining "new ground of rejection" and requiring that "when a rejection is factually based on an entirely different portion of an existing reference the appellant should be afforded an opportunity to make a showing of unobviousness vis-a-vis such portion of the reference")

Applicant has relied on *In re Wiechert*[3] however, Applicant has failed to make any showing of unexpected properties to support patentability.[4]

12. Applicant's arguments with respect to rejections under 35 U.S.C. § 103(a), see Applicants Amendment (dated 2/5/2008), have been considered but are not persuasive.

Applicant argues:

> ...that the present Office Action fails to evidence the scope and contents of the prior art as required under Graham. The present Office Action fails to even identify what "the pertinent art" is. Moreover, the present Office Action fails to evidence the level of ordinary skill in the pertinent art.

Applicant is directed to the "Conclusion" of each Office Action issued in this Application for prior art that has been made of Record, and moreover, to every form PTO-892 issued in this Application. Applicant will find a total of Thirty-Seven (37) cited references. Each of these references, notwithstanding being relied upon, is considered pertinent to applicant's disclosure. Applicant is required under 37 CFR §1.111(c) to consider these references fully when responding to each Office Action to which an

[3] 152 USPQ 247,251-52 (CCPA 1967)

[4] The court said, " Where applicant depends on showing of unexpected properties to support patentability, comparison which results in a conclusion of unexpected properties cannot practically be made for all compounds mentioned in a particular reference; thus, when rejection is factually based on an entirely different portion of existing reference, applicant should be afforded an opportunity to make a showing of unobviousness vis-a-vis such portion of reference."

Amendment is made. The scope and content of the prior art, inter alia, has been evidenced, and not only by making it of Record, but furthermore, by presenting precise mappings from any applicable disclosure or teaching in the prior art to the applicable claim limitation. Applicant is reminded that, "Factors that may be considered in determining level of ordinary skill in the art include (1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field." *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696, 218 USPQ 865, 868 (Fed. Cir. 1983), cert. denied, 464 U.S. 1043 (1984).

CONCLUSION

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Stephen S. Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, *see* http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Samir Termanini/
Examiner, Art Unit 2178
/Stephen S. Hong/

Supervisory Patent Examiner, Art Unit 2178